



January 28, 2020

Board of Public Works & Safety
City of Lafayette
20 North 6th Street
Lafayette, IN 47901

Dear Board Members,

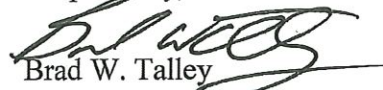
You have before you a Contract with Greeley and Hansen LLC. for Professional Services for the Combined Sewer Overflow Long Term Control Plan (LTCP) Phase II-C. The Scope of this contract will assist in determining the size and scope of the next phase of the City's LTCP. Collection system modeling will be a large portion of this contract so that the City can see the impacts of recently completed projects that will reduce storm water flowing into the combined sewer system.

The Scope of this Contract includes:

- Collection System Hydraulic Modeling
- Model System Update and Recalibration
- High Rate Treatment Data Gathering
- LTCP Alternative Analysis
- CSO LTCP Modifications

Greeley and Hansen will perform the work outlined in this Contract for the not to exceed amount of \$192,500. This Contract has been reviewed by the City Attorney and I recommend it for your approval.

Respectfully,


Brad W. Talley
Superintendent
Lafayette Renew



AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

between

CITY OF LAFAYETTE, INDIANA

and

GREELEY AND HANSEN LLC

Article I. PARTIES AND PROJECT

This AGREEMENT is made effective on the _____ day of _____ in the year 2020 between the City of Lafayette, Indiana, hereinafter referred to as CITY, and Greeley and Hansen LLC, an Illinois limited liability company, with its principal office at 100 South Wacker Drive, Chicago, Illinois 60606-4004, and a regional office at 7820 Innovation Boulevard, Suite 150, Indianapolis, Indiana 46278-2728, hereinafter referred to as ENGINEER, for professional engineering services in connection with the Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP) Phase II-C Pearl River CSO Control Facility, the PROJECT.

Article II. ENGINEER'S SERVICES

ENGINEER shall provide appropriate professional engineering services as required to complete the scope of services as set forth hereinafter, and shall perform such services in conformance with the ordinary standards of care and skill of the engineering profession.

A. Basic Services

The scope of the basic services for the PROJECT are set forth in Exhibit A attached hereto and made a part of this AGREEMENT. ENGINEER shall not perform services beyond the scope as defined in Exhibit A without the prior written authorization of CITY.

B. Additional Services

ENGINEER may submit proposals for additional professional engineering services in connection with the PROJECT. Each proposal submitted shall detail the: (1) scope of additional services, (2) period of services, and (3) method and amount of compensation.

CITY shall provide written acceptance and authorization to ENGINEER prior to the commencement of work on any proposed additional services. Upon receipt by ENGINEER of written acceptance and authorization by CITY, each proposal for additional services in connection with the PROJECT shall become part of this AGREEMENT and shall be governed by the terms and conditions contained herein.

C. Period of Services

Upon receipt of CITY'S written notice to proceed, ENGINEER agrees that the basic services as described in Exhibit A will be completed according to the schedule provided in Exhibit C.

The period of services will begin upon the date of CITY'S written notice to proceed. ENGINEER shall not, however, be responsible for timely completion of basic services as agreed to herein if completion is delayed by the failure of CITY to furnish the services provided for under Article IV., hereof, in a timely manner, or for other reasons beyond the control of the ENGINEER.

ENGINEER further agrees that additional services will be substantially complete within the period specified in each accepted and authorized proposal for additional services, unless reasons for delay in completion are beyond the control of ENGINEER.

If ENGINEER'S basic services or any accepted and authorized additional services are delayed or suspended in whole or in part by the CITY for more than ninety days beyond the scheduled completion date for said basic or additional services for reasons beyond ENGINEER'S control, compensation for the delayed services, as provided in Article III. hereunder, shall be subject to renegotiation upon the written request of ENGINEER. However, such request must be submitted by ENGINEER to the CITY prior to the completion of the delayed services.

Article III. ENGINEER'S COMPENSATION

ENGINEER shall perform professional engineering services as provided in Article II. of this AGREEMENT for which CITY shall compensate ENGINEER as follows:

A. Basic Services**1. Personnel Services**

ENGINEER shall be compensated for personnel services on the basis of actual annual average hourly rates paid to personnel assigned to the PROJECT for each hour of services rendered times a 3.2 factor to cover overhead and profit. Such rates shall be computed as actual annual base salary, in effect at the time the services are rendered, divided by 1,950 hours. Personnel services rates shall include applicable required overtime premium for covered employees.

2. Subconsultants and Other Professional Associates

CITY shall pay ENGINEER for the services of subconsultants and other professional associates at their invoiced fees to ENGINEER plus 10 percent.

3. Reimbursable Direct Costs

CITY shall pay ENGINEER the actual cost of any direct reimbursable expenses incurred in connection with performing the services.

B. Additional Services

Unless otherwise provided for in any accepted and authorized proposal for additional services, such services shall be compensated for on the same basis as provided for in Paragraph III. A., above, for basic services.

C. Total Compensation

Total compensation to ENGINEER for basic services under this AGREEMENT shall include full reimbursement for personnel services, subconsultants and other professional associates

and reimbursable direct costs incurred in performing basic services, as described in Paragraph III. A. It is agreed that the total compensation to ENGINEER for performing basic services will not exceed \$192,500 as set forth in Exhibit B, without prior approval of CITY. If at any time ENGINEER has reason to believe that the total cost to be incurred in the performance of the basic services will be greater than the total estimated cost for such services, ENGINEER shall notify the CITY in writing to that effect giving the detailed reasons for the change and revised estimate of such total cost for the performance of basic services.

The provisions of this Article III. C. shall also apply to each accepted and authorized proposal for additional services in connection with the PROJECT. However, the term "basic services", as used in this Article III. C., shall mean "additional services" and the terms "Exhibits A" and "Exhibit B" as used in this Article III. C. shall mean "the accepted and authorized proposal for additional services". The estimated compensation for any additional services, and the completion date beyond which these amounts are subject to renegotiation, shall be as specified in each such authorized proposal.

D. Terminated Services

If this AGREEMENT is terminated, ENGINEER shall be paid for services performed to the effective date of termination as follows:

1. For personnel services, the hours of services rendered at the established rates, to the effective date of termination times the factors established herein.
2. For services of subconsultants and other professional associates, their invoiced fees to ENGINEER, for services to the effective date of termination plus 10 percent.
3. For reimbursable direct costs, the actual cost of direct reimbursable expenses incurred to the effective date of termination.

E. Conditions of Payment

1. Progress payments shall be made in proportion to services rendered and expenses incurred as indicated within this AGREEMENT and shall be due and owing within thirty days of ENGINEER'S submittal of his progress payment invoices.
2. If CITY fails to make payments due ENGINEER within forty-five days of the submittal of any progress payment invoice, ENGINEER may, after giving fifteen days written notice to CITY, suspend services under this AGREEMENT.
3. No deduction shall be made from ENGINEER'S compensation on account of penalty, liquidated damages or other sums withheld from payments to construction contractors.
4. If the PROJECT is delayed, or if ENGINEER'S services for the PROJECT are delayed or suspended for more than ninety days for reasons beyond ENGINEER'S control, ENGINEER may, after giving fifteen days written notice to CITY, request renegotiation of compensation under Article II. C. or may terminate this AGREEMENT.

Article IV. CITY'S RESPONSIBILITIES

The CITY shall, as required:

- A. Provide all criteria and full information as to CITY'S requirements for the PROJECT, and furnish copies of all design and construction standards which the CITY will require to be included in the drawings and specifications.
- B. Assist ENGINEER by placing at ENGINEER'S disposal all available information pertinent to the PROJECT including CITY maps and plats, previous reports, drawings, specifications and any other data relative to the design or construction of the PROJECT.

- C. Furnish to ENGINEER property and land use data pertaining to the PROJECT available to the CITY including, but not limited to, property, boundary, easement, right-of-way, topographic and utility surveys; property descriptions; zoning, deed and other land use restrictions; and other related data.
- D. Provide legal, insurance and financial consulting services necessary for the PROJECT, and such accounting and auditing services as the CITY may require.
- E. Furnish permits and approvals from all governmental authorities having jurisdiction over the PROJECT and from others as may be necessary for completion of the PROJECT.
- F. Furnish above record information, property and land use data, and services at CITY'S expense in such manner that ENGINEER may rely upon them in the performance of services under this AGREEMENT.
- G. Furnish any laboratory analyses that may be required in connection with the PROJECT.
- H. Guarantee full and free access to ENGINEER to enter upon all public and private property required for the performance of ENGINEER'S services under this AGREEMENT.
- I. Designate in writing a person to act as CITY'S representative with respect to the services to be performed under this AGREEMENT. Such person shall have complete authority to transmit instructions, receive information, interpret and define CITY'S policies and decisions with respect to materials, equipment, elements and systems pertinent to ENGINEER'S services.
- J. Coordinate, consolidate, reconcile and bring congruence to differing views in the CITY'S organization to form single firm responses stating the CITY'S position on matters requiring resolution during performance of ENGINEER'S services. Examine all studies, reports,

sketches, drawings, specifications, proposals and other documents presented by ENGINEER and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of ENGINEER. Render such decisions in a consolidated form reconciling differing views into an unambiguous single firm response to each matter requiring resolution.

- K. Provide ENGINEER with prompt written notice of any defect or suspected defect in ENGINEER'S performance of any services rendered pursuant to this AGREEMENT or relating to the PROJECT.
- L. In any agreement entered into between the CITY and other contractors for the PROJECT in which such contractors and their subcontractors agree to indemnify, provide insurance coverage to, and/or name as additional insured, the ENGINEER, its subconsultants, professional associates, and each of their officers, principals, partners and employees to the same extent as to the CITY. Furthermore, the CITY will provide ENGINEER with certificates of insurance from each such contractor or subcontractor.
- M. Give prompt written notice to ENGINEER whenever the CITY observes or otherwise becomes aware of any development that affects the scope or timing of ENGINEER'S services, or any defect in the work of construction contractors.
- N. Compensate ENGINEER in accordance with the provisions of Article III.

Article V. GENERAL PROVISIONS

A. Ownership of Documents

All reports, schedules, drawings, specifications and other products of services of ENGINEER for this PROJECT are instruments of service for this PROJECT only and shall remain the property of ENGINEER until the CITY has compensated ENGINEER in full for services rendered pursuant to the AGREEMENT. Upon final payment for each phase of Basic Services and for each separately accepted and authorized proposal for additional services,

ownership of the products or instruments of service for said phase or additional services authorized shall be vested in the CITY. ENGINEER, however, may retain record copies of all such instruments of service and may use such for ENGINEER'S exclusive purposes.

The ENGINEER'S instruments of service have been prepared for very specific purposes and the degree of accuracy and detail of the instruments of service are consistent with those purposes but they may not be useful for other purposes. Furthermore, misapplication of the ENGINEER'S instruments of service can cause occurrences that potentially have life/safety and financial consequences. The ENGINEER'S instruments of service are not intended or represented to be suitable for use by the CITY or by others acting for the CITY for other purposes on this PROJECT or on extensions of this PROJECT or on any other project without written verification, adaptation or completion by ENGINEER and, when applicable, associated compensation to ENGINEER.

Any changes or modifications to the instruments of service of ENGINEER which are introduced by anyone other than ENGINEER may have adverse consequences. Therefore, the change or modification of ENGINEER'S instruments of service by the CITY or by others acting for the CITY shall be at the CITY's sole risk and the CITY agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless ENGINEER from all claims, damages, and expenses, including attorney's fees, arising out of such change or modification.

Use of the instruments of service of ENGINEER on extensions of this PROJECT, or on any other project by the CITY or by others acting for the CITY, without verification or adaptation by ENGINEER and appropriate compensation therefore, shall be at the CITY'S sole risk and the CITY agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless ENGINEER from all claims, damages, and expenses, including attorney's fees, arising out of such use of ENGINEER'S instruments of service for this PROJECT.

B. Data on Electronic Media

Data delivered on electronic media are considered part of the ENGINEER'S instruments of service and, therefore, Article V.A. above applies to documents delivered on electronic media.

The form of ENGINEER'S drawings, specifications, reports, data or other information that may be relied upon are those which 1) are set forth on paper (also known as hard copies) and 2) are designated as final. Files in electronic media format of text, data, graphics, or other types are furnished only for convenience, not reliance by the CITY. Any conclusion or information obtained or derived from such electronic files will be at the CITY's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

Because files stored in electronic media format can contain irregularities, deteriorate or be modified inadvertently or otherwise without authorization of the ENGINEER, the transmitted electronic files should be examined by the CITY within 60 calendar days of receipt, after which time the CITY shall be deemed to have accepted the files thus transmitted. Any transmittal deficiencies detected within the 60-day acceptance period will be corrected by ENGINEER. Deficiency corrections requested after the acceptance period will be considered "additional services." ENGINEER is not responsible for irregularities, deterioration or modifications occurring or detected after the 60 calendar-day acceptance period.

ENGINEER 1) makes no representations as to the long-term usability or readability of the electronic files and 2) cannot be depended upon to maintain copies of the electronic files after the 60 calendar-day acceptance period. The documents will be in the software listed below designed for operation on a PC compatible computer under the associated operating system as listed below:

Type of Document	Software	Operating System
Word Processed Text	MS Word 2013	Windows
Spreadsheets	MS Excel 2013	Windows
CADD Drawings	AutoCAD 2015	Windows

The ENGINEER makes no warranty as to the compatibility of electronic files beyond those versions. However, the ENGINEER reserves the right to submit documents in versions newer than those shown above.

ENGINEER makes no representations as to the compatibility, usability, or readability of the electronic files resulting from the use of software application packages, operating systems, or computer hardware (e.g. monitors, graphic cards and plotters) differing from those used by ENGINEER and its subconsultants. Also, the use of software application packages, operating systems and computer hardware different from those used by ENGINEER and its subconsultants may introduce errors and irregularities. Such occurrences are not the responsibility of ENGINEER and its subconsultants.

C. Successors and Assigns

1. The CITY and ENGINEER each binds himself and his partners, successors, executors, administrators, assigns and legal representatives to the other party to this AGREEMENT and to the partners, successors, executors, administrators, assigns and legal representatives of such other party, in respect to all covenants, agreements and obligations of this AGREEMENT.
2. Neither the CITY nor ENGINEER shall assign or transfer any rights under or interest in this AGREEMENT without the written consent of the other, except as stated in Article V. C. 1. and to the extent that the effect of this limitation may be restricted by

law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this AGREEMENT. Nothing contained in this paragraph shall prevent ENGINEER from employing such independent subconsultants and associates as may be deemed appropriate to assist in the performance of services hereunder.

D. Changes in Scope and Revisions

The general category "additional services", referred to in Article II. B. may include services due to changes in the scope of the PROJECT, including, but not limited to, changes in size, complexity, schedule or character of the services and also may include revisions to instruments of service previously approved by the CITY or other revisions due to causes beyond the control of ENGINEER. All changes in scope and revisions shall require the written acceptance and authorization of the CITY prior to commencement of work, as provided in Article II. B.

This AGREEMENT takes into account the professional engineering and architectural signing and sealing requirements that are applicable as of the date of this AGREEMENT. Any changes to those requirements during the performance of the services associated with this AGREEMENT which cause revisions to the scope of the ENGINEER'S services or to the ENGINEER'S instruments of services shall be considered "additional services".

Proposals for services pursuant to changes in scope or revisions shall, upon CITY'S acceptance and authorization, become part of this AGREEMENT and shall be governed by the terms and conditions contained herein.

E. Extent of AGREEMENT

This AGREEMENT represents the entire understanding and agreement between the CITY and ENGINEER for professional engineering services pertaining to the PROJECT as described in Article II. and supersedes all prior negotiations, representations or agreements,

either written or oral. This AGREEMENT may be amended only by written instrument signed by both the CITY and ENGINEER.

F. No Waiver

Failure of the ENGINEER or the CITY to insist upon strict and punctual performance of any terms or conditions of this AGREEMENT shall not be construed to constitute a waiver of, or estoppel against, asserting the rights to require such performance. Neither shall a waiver nor an estoppel in one instance constitute a waiver or an estoppel with respect to a later default, whether similar or dissimilar in nature.

G. Severability

If any part of this AGREEMENT is determined by a court to be in conflict with statute or constitution or to be unlawful for any reason, the parties intend that the remaining provisions of this AGREEMENT shall remain in full force and effect unless the stricken provision leaves the remaining AGREEMENT unenforceable.

H. Governing Law

This AGREEMENT shall be governed by the laws of the State of Indiana.

I. Subconsultants

During the performance of the AGREEMENT, ENGINEER may engage such additional subconsultants or professional associates as may be appropriate for the timely completion of the services or to meet applicable requirements. The engagement of any subconsultants or professional associates shall be subject to the prior approval of the CITY.

J. Insurance

The ENGINEER shall at its own expense maintain in effect during the term of this contract the following insurance with limits as shown or greater:

1. General Liability (including automobile) with a combined single limit of \$1,000,000. The CITY shall be named as an Additional Insured to cover the

ENGINEER's indemnification obligation under this Agreement and be given a 30 day notice of cancellation, non-renewal or reduction in coverage. ENGINEER'S insurance shall be written on a "primary" basis and the CITY'S insurance program shall be in excess of all of ENGINEER'S available coverage.

2. Worker's Compensation at the statutory limit. Workers Compensation shall include a Waiver of Subrogation endorsement in favor of CITY.
3. Professional Liability for protection against claims arising out of performance of professional services caused by negligent error, omission or act in the amount of \$2,000,000.

The ENGINEER shall provide to the CITY Certificates of Insurance indicating the aforesaid coverage.

K. ENGINEER'S Estimates of Cost and Standard of Care

Since ENGINEER has no control over the cost of labor, materials, equipment or services furnished by others, or over contractors' methods of determining prices, or over competitive bidding or market conditions, ENGINEER'S estimates of project and construction costs are to be made on the basis of its experience and qualifications and represent its best judgment as an experienced and qualified professional engineering firm, familiar with the construction industry; but ENGINEER cannot and does not guarantee that proposals, bids or actual project or construction costs will not vary from ENGINEER'S estimates of cost.

Notwithstanding any other provisions in this AGREEMENT to the contrary, nothing herein contained shall be construed as:

1. Constituting a guarantee, warranty or assurance, either express or implied, that the engineering services will yield or accomplish a perfect outcome for the PROJECT; or
2. Obligating the ENGINEER to exercise professional skill and judgment different from that which can be reasonably expected from other engineers under like circumstances; or
3. An assumption by the ENGINEER of liability greater than or differing from those explicit in this AGREEMENT, or
4. An assumption by the ENGINEER of the liabilities of any other party.
5. An assumption by the ENGINEER for the construction means, methods, techniques, procedures, or safety precautions and programs in connection with the Project.

L. Consequential Damages

Notwithstanding anything to the contrary in this AGREEMENT, neither the CITY nor the ENGINEER shall have the right of recourse to the other party for any consequential damages incurred due to the fault of the CITY or ENGINEER, their employees, agents or subcontractors, irrespective of any forewarning of the potential for such damages arising.

M. Termination

This AGREEMENT may be terminated by the CITY without cause on thirty days written notice. If the PROJECT is delayed, or if ENGINEER'S services for the PROJECT are

delayed or suspended for more than ninety days for reasons beyond ENGINEER'S control, ENGINEER may request renegotiation of compensation in accordance with the provisions of Articles II. and III. or, after giving fifteen days written notice, terminate this AGREEMENT with cause. In the event of substantial failure to perform in accordance with the terms of this AGREEMENT, the party not at fault may terminate the AGREEMENT with cause on ten days written notice. If this AGREEMENT is terminated, ENGINEER shall be compensated for services performed to the effective date of termination in accordance with the provisions of Article III. of this AGREEMENT. Within sixty days following the date of receipt of the termination notice, and following receipt of compensation for services to date of termination, ENGINEER shall submit to the CITY copies of all reports, drawings, specifications and other products or instruments of service prepared prior to termination.

N. Remedies

Except as may be otherwise provided in this AGREEMENT, all claims, counter-claims, disputes and other matters in question between the CITY and ENGINEER arising out of or relating to this AGREEMENT or the breach thereof will be decided by arbitration if the PARTIES mutually agree or in an Indiana court of competent jurisdiction.

O. Non-Discrimination and Equal Employment

ENGINEER agrees:

1. That in the hiring of employees for the performance of work under this contract or any Subconsultant hereunder, no ENGINEER, or Subconsultant, nor any person acting on behalf of such ENGINEER or Subconsultant, shall, by reason of race, religion, color, sex, national origin or ancestry, discriminate against any citizen of the

State of Indiana who is qualified and available to perform the work to which the employment relates.

2. That no ENGINEER, Subconsultant, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, religion, color, sex, national origin or ancestry.
3. That the CITY may deduct from the amount payable to the ENGINEER a penalty of five dollars (\$5.00) for each person for each calendar day during which such person was found to have been discriminated against or intimidated in violation of the provisions of the contract.
4. If there is found to be a second or any subsequent violation of the terms or conditions of this section, then this contract may be cancelled or terminated by CITY and all money due or to become due hereunder will be forfeited.

P. Engaging in activities with Iran

By signing this Contract, ENGINEER certifies that it is not engaged in investment activities in the county of Iran as set forth in IC 5-22-16.5.

Q. E-Verify

ENGINEER shall comply with E-Verify Program as follows:

1. Pursuant to IC 22-5-1.7, ENGINEER shall enroll in and verify the work eligibility status of all newly hired employees of ENGINEER through the E-Verify Program ("Program"). ENGINEER is not required to verify the work eligibility status of all newly hired employees through the Program if the Program no longer exists.
2. ENGINEER and its Subconsultants shall not knowingly employ or contract with an unauthorized alien or retain an employee or contract with a person that ENGINEER or its Subconsultants subsequently learns is an unauthorized alien. If ENGINEER

violates this Section, the CITY shall require ENGINEER to remedy the violation no later than thirty (30) days after the CITY notifies ENGINEER. If ENGINEER fails to remedy the violation within the thirty (30) day period, the CITY shall terminate the contract for breach of contract. If the CITY terminates the contract, ENGINEER shall, in addition to any other contractual remedies, be liable to the CITY for actual damages. There is a rebuttable presumption that ENGINEER did not knowingly employ an unauthorized alien if ENGINEER verified the work eligibility status of the employee through the Program.

3. If ENGINEER employs or contracts with an unauthorized alien but the CITY determines that terminating the contract would be detrimental to the public interest or public property, the CITY may allow the contract to remain in effect until the CITY procures a new Engineer.
4. ENGINEER shall, prior to performing any work, require each Subconsultant to certify to ENGINEER that the Subconsultant does not knowingly employ or contract with an unauthorized alien and has enrolled in the Program. ENGINEER shall maintain on file a certification from each Subconsultant throughout the duration of the Project. If ENGINEER determines that a Subconsultant is in violation of this Section, ENGINEER may terminate its contract with the Subconsultant for such violation. Such termination may not be considered a breach of contract by ENGINEER or the Subconsultant.
5. By its signature below, ENGINEER swears or affirms that it i) has enrolled and is participating in the E-Verify program, ii) has provided documentation to the CITY that it has enrolled and is participating in the E-Verify program, and iii) does not knowingly employ an unauthorized alien.

R. Indemnification

CITY and ENGINEER each agree to indemnify and hold the other harmless, and their respective officers, employees, agents and representatives, from and against liability for

all claims, losses, damages, and expenses, including reasonable attorney fees, to the extent such claims, losses, damages, or expenses are caused by the indemnifying party's negligent acts, errors, or omissions. In the event claims, losses, damages, or expenses are caused by the joint or concurrent negligence of the CITY and ENGINEER, they shall be borne by each party in proportion to its negligence.

S. Notices

Any notices required hereunder or by law may be directed to the parties at the following addresses:

To ENGINEER:

Joseph Teusch, PE
Office Director
Greeley and Hansen LLC
7820 Innovation Blvd, Suite 150
Indianapolis, IN 46278-2728

To CITY:

Honorable Tony Roswarski
Mayor
City of Lafayette
20 North 6th Street
Lafayette, IN 47901-1412

All notices shall be deemed to be given when deposited with the United States Postal Service for first class mail delivery.

Article VI. APPROVAL

In WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed by their duly authorized officers and partners and is made effective the day and year first above written.

GREELEY AND HANSEN LLC



Joseph Teusch, PE

Authorized Representative

ATTEST:



Tim Healy, PE

Associate

CITY OF LAFAYETTE, INDIANA
BOARD OF PUBLIC WORKS AND SAFETY

Gary Henriott

President

Cindy Murray

Member

Norm Childress

Member

Ron Shriner

Member

Amy Moulton

Member

Mindy Miller

1st Deputy Clerk

ATTEST:

EXHIBIT A

AGREEMENT FOR PROFESSIONAL SERVICES

between

CITY OF LAFAYETTE

and

GREELEY AND HANSEN LLC

SCOPE OF BASIC ENGINEERING SERVICES

COMBINED SEWER OVERFLOW LONG TERM CONTROL PLAN PHASE II-C PEARL RIVER CSO CONTROL FACILITY

January 2020

The City of Lafayette's (City) approved Combined Sewer Overflow Long Term Control Plan (CSO LTCP) requires a level of control of four (4) CSO overflows per year. To achieve this level of control, the recommended plan was divided into four (4) sub-phases (Phase II-A, II-B, II-C and II-D). As a component of Phase II-C, the City is required to plan, design and construct a CSO Control Facility (currently envisioned as a storage tank) at the Pearl River Lift Station site and later as a component of Phase II-D a High Rate Treatment (HRT) facility in the area near CSO 009 site (adjacent to WWTP).

Preliminary modeling analysis of the collection system determined that it may be possible to combine CSO Storage and high-rate treatment into a single facility, reducing the total capital cost required while maintaining the same level of control.

In order to rightly size the CSO treatment facility, the collection system model needs to be recalibrated. Whether a single tank is constructed at the Pearl River Lift Station or a combined tank and HRT facility, the model needs to be updated to reflect the sewer system as it exists today, as well as quantify the reduction in storm water flowing into the combined system. City investments in green infrastructure along North Street, Brown Street, and sewer separation projects along Main Street and Valley Street will reduce the storm water flowing into the combined sewer system. Quantifying the reduction in storm water into the collection system should reduce the size of the proposed tank at Pearl River Lift Station, and increase the likelihood that a combination tank / HRT facility could meet the required level of control.

SCOPE OF SERVICES

This scope of work includes updating the current collection system model, flow monitoring, flow sampling, recalibration of the City's collection system model, and the use of the recalibrated model to perform an alternative analysis to determine if a combined tank and HRT facility at the Pearl River Lift Station site would be a more cost effective CSO LTCP alternative. This alternative analysis will provide a conceptual level design focusing on preliminary hydraulics, size (footprint), and cost.

EXHIBIT A

As a component of this scope regular meetings will be facilitated with the Indiana Department of Environmental Management (IDEM) to proactively discuss results, such that any result modification to the CSO LTCP will be expected by IDEM, and CSO LTCP modification quickly approved.

COLLECTION SYSTEM HYDRAULIC MODELING

- 1.1 Flow Monitoring. Temporary flow monitors will be strategically placed in the collection system to measure wet weather flows. This flow data will be used to calibrate the collection system computer model, which is used to predict flows to future CSO Storage Tank and HRT Facility.
 - 1.1.1 Provide services for temporary flow monitoring. It is assumed that up to twenty (20) temporary flow meters will be provided for computer model recalibration. City will be responsible for the costs associated with meter rental, installation and maintenance.
 - 1.1.2 Request quotes from flow monitoring specialty contractors to provide flow monitoring services. Assist the City in evaluation of quotes received and selection of contractor to conduct flow monitoring.
 - 1.1.3 Engage selected flow monitoring specialty contractor to conduct flow monitoring in accordance with the scope of services.
 - 1.1.4 Perform quality control check on flow monitoring data for the flow monitoring period by reviewing for consistency and plotting depth versus flow to compare data to Manning's Equation that governs open channel flow. EPA requires a quality assurance and quality control check of data used for modeling purposes per the Combined Sewer Overflows Guidance for Monitoring and Modeling (EPA 832-B-99-002, January 1999). Provide a summary of the storm events that occurred during the monitoring period (estimated to be up to six storm events). Perform quality control check on rain gauge data for the flow monitoring period. EPA requires a quality assurance and quality control check of data used for modeling purposes per the Combined Sewer Overflows Guidance for Monitoring and Modeling (EPA 832-B-99-002, January 1999).
 - 1.1.5 Provide up to 40 hours of services, as needed, to coordinate and support flow monitoring specialty contractor services described above. It is anticipated that two site visits be performed to confirm flow meter installation locations.

Deliverables associated with this task include two bound copies and one electronic version of flow monitoring report provided by the flow monitoring sub-consultant. A memorandum will be prepared to summarize the storm events during the monitoring period and QA/QC checks performed related to the flow monitoring and rainfall data during the

EXHIBIT A

monitoring period. The memorandum will discuss the quality and quantity of rainfall events and flow data to be used in the Model Calibration Report.

- 1.2 XPSWMM Model Update. In 2011 the collection system model was updated from version 8.52 (2000) to version 2010, so that the model would continue to be a useful tool in sizing and ultimately proving compliance with the CSO LTCP. Since the model is now 9 years old and this scope of work includes a near full system recalibration it is an appropriate time to transition to the 2019. Update the current XPSWMM collection system model (version 12.0 – 2010) to the 2019 version. Run the typical year using the converted model. Compare typical year overflow volume between current and updated versions of the model. Perform QA/QC verification checks to confirm model update meets accuracy tolerance requirements required for use in future model recalibration.

The deliverables for this task include a memorandum documenting the comparison of the original and updated collection system model. Conduct a meeting with the City to present the draft memorandum. Prepare and distribute meeting materials and notes within five (5) business days of each meeting. Submit final memorandum as electronic PDF along with two paper copies.

- 1.3 Model Recalibration. Update the XPSWMM collection system model (model) to include the collection system modifications that have occurred since the development of the existing model. Calibrate the updated collection system model to properly size the CSO Storage Tank and HRT Facility, as follows:

- 1.3.1 Update the model to reflect the following collection system improvements:

- a. Greenbush Street Sewer
- b. Brown Street Sewer
- c. Greenbush CSO Storage Tank
- d. North Street Improvements
- e. Main Street Improvements
- f. Valley Street Improvements
- g. Pearl River Sewer Modifications
- h. WWTP Capacity Expansion

Run the rainfall from the flow monitoring period through the model and compare flow volume and peak flow rate at each flow monitor location between the model output and the meter data. Adjust model parameters to match flow monitoring data and verify adjustments with one storm. Present the model adjustment results to City staff.

- 1.3.2 Run the typical year rainfall through the model and summarize model calculated overflow volume and peak flow rate at each CSO location.
- 1.3.3 Prepare a draft Model Calibration Report for the updated, calibrated model.

EXHIBIT A

1.3.4 Run all design storms through the model, update the matrix used to complete Monthly Report of Operations (as required by the City's National Pollutant Discharge Elimination System) and submit updated matrix to the City.

1.3.5 Update CSO Overflow Matrix for DMR Reporting purposes.

Conduct a meeting with the City to present the draft Model Calibration Report. Prepare and distribute meeting materials and notes within five (5) business days of each meeting. Submit final Model Calibration Report as electronic PDF along with two paper copies.

Deliverables associated with this task include an electronic version of the model, including three (3) bound copies and one (1) electronic copy of both draft and final Model Calibration Report and an updated CSO overflow matrix for the purpose of reporting of CSO activity on the CSO MRO. Deliverables also include agenda, meeting materials and meeting notes within five (5) business days of Model Calibration Report meeting.

1.4 HRT Pilot Operating Data Collection and Sampling. The wet weather testing protocol evaluation will include characterization of the HRT facility influent over time. Laboratory analysis of all samples will be handled by the City's laboratory. The samples will be analyzed for the following parameters, however, since cBOD₅ testing is demanding in terms of labor, time, and supplies, all samples will be analyzed for COD and possibly 1 of every 4 samples (to be determined by the City) will be analyzed for cBOD₅ to establish a COD to cBOD₅ relationship. If determined necessary by laboratory staff, some analyses may also be performed by a third party laboratory.

- TSS
- COD
- cBOD₅ (See discussion above regarding number of samples)
- NH₄-N
- Total Phosphorus, as necessary
- Ultraviolet Transmittance, UV at frequency of 254 nm
- Turbidity (by AASI supplied on-line turbidity meters)

The parameters above will be tested on all the samples. *E-coli* grab samples will be collected every 2 to 4 hours during the events if there are available personnel onsite when the event is occurring. When collecting *E-coli* grab samples, the collection times of the influent and effluent samples will be recorded and logged. It is anticipated that four site visits will be performed to assist in the facilitation of sampling.

Deliverables associated with this task will be documentation and analysis of samples test results.

- 1.5 Long Term Control Plan Alternative Analysis. Utilize the updated and recalibrated collection system model to evaluate modifications to the Long Term Control Plan (LTCP). The objective of the evaluation is to maintain the State Judicial Agreement specified level of control (4 overflows per year in the Typical Year) while decreasing the total cost (capital and Operations and Maintenance) and better integrating the LTCP projects into the City's long term development plans. This analysis will focus on three factors, hydraulic modeling, cost and construction footprint.

- 1.5.1 Hydraulic Modeling Alternative Analysis. This evaluation will focus on the combination of the storage tank planned for the Pearl River Lift Station site and the High Rate Treatment (HRT) facility planned for the CSO 009 (adjacent to the WWTP) site. If these two facilities were constructed at the Pearl River Lift Station site it would eliminate the need for both the expansion of the Pearl River Lift Station, the large diameter force main from Pearl River to the WWTP, and potentially reduce the total capital cost of both the future tank and HRT facility. The expansion of the WWTP peak treatment capacity will only increase the likelihood of this alternative being more viable.

In addition this optimization will utilize the updated and recalibrated collection system model to evaluate the potential benefit of incorporating Real Time Control (RTC) into the collection system. RTC may be a cost effective means of storing combined sewage in underutilized conveyance sewers. This is specifically of interest along Erie Street where the old Railroad Corridor sewers were recently put into service as part of the Brown St. project. These sewers are large (greater than 72-inch in diameter), long (over 3,000 feet from Greenbush to Union) and have no direct connections, such that basement backups are not possible. By using the full available sewer capacity, it may decrease the size of future tank and result in significant capital cost savings.

There is also an opportunity to manage flow at the intersection of Greenbush St. and Erie St. to dynamically control sewage flowing through the collection system, balancing full use of the storage provided by the Greenbush CSO Tank, potential in-line storage along Erie, while optimizing performance of the other CSO infrastructure (Tunnel, Brown St), such that the size and associated cost of the improvements at the Pearl River Lift Station are minimized.

This analysis will result in a series of combinations of alternatives that comply the with required level of control but vary in composition such that the following analysis focused on cost and construction footprint can be used to determine the optimal alternative.

Deliverables associated with this task include development of up to five (5) alternative combinations of CSO Tank, HRT Facility and Real Time Control that comply with the required level of control. The alternatives will be presented to Lafayette Renew as part of Task 1.5.4. Meeting agenda along with PDF figures detailing the alternatives to be sent electronically five (5) days prior to the meeting and meeting notes distributed within five (5) days of the meeting.

- 1.5.2 Cost Alternative Analysis. This analysis will develop cost opinions for the major project components (CSO Tank, HRT Facility and RTC). This effort will start with the existing cost estimation equations that were utilized in the formation of the original CSO LTCP and then update those tools to reflect new technology, more recent bid tabs, etc. This will include communication with both vendors and municipalities to obtain recent bid tabs. Understanding how the cost of a CSO Tank, for example, changes as the size increases from two to three to four million gallons will facilitate the selection of the most cost effective alternative developed by the hydraulic modeling analysis.

Since a HRT facility has a more significant operational expense compared to a Real Time Control or CSO Tank facility it is important that a Total Present Worth Cost be considered, one that includes both capital and operations and maintenance cost. Furthermore, processes that are energy intensive, as in pumping of large peak flows associated with HRT, should also be evaluated in terms of the impact on the utilities carbon footprint.

This task will take place concurrently with the flow monitoring and model recalibration such that it is complete prior to the commencing of the hydraulic modeling analysis.

Deliverables associated with this task include the development of "cost curves" that will allow both the capital and O&M cost of various sized alternatives to be calculated quickly and accurately to support the selection of the most optimal alternatives developed in the hydraulic modeling analysis.

1.5.3 CSO Control Facility Footprint

The construction footprint required by different alternatives (combinations of technology) at specific locations will establish boundaries, or constraints for the hydraulic modeling analysis. The Pearl River Lift Station site, for example, could likely accept a 3 million gallon CSO storage tank, but could not accept a 30 million gallon tank. This effort will set limits for the maximum size technology at each potential location and then incorporate those limits into the hydraulic modeling analysis.

This task will take place concurrently with the flow monitoring and model recalibration such that it is complete prior to the commencing of the hydraulic modeling analysis. Up to two (2) site visits to similar CSO Control Facility installations shall be conducted for design and operations and maintenance guidance.

Deliverables associated with this task include documentation of the minimum and maximum size of each CSO technology at each location.

EXHIBIT A

1.5.4 Selected Alternative

Conduct up to two (2) meetings with Lafayette Renew to present the up to five (5) draft alternatives, seek feedback on the alternatives, reduce the number of alternatives to three (3) for the Present Worth comparison, refine the remaining alternatives and then conduct a final meeting to present the refined alternatives and select a final alternative. The final alternative will include recommended sizing, location, capital and O&M cost, general facility arrangement and schedule.

Deliverables associated with this task include development of up to five (5) alternative combinations of CSO Tank, HRT Facility and Real Time Control that comply with the required level of control. The alternatives will be presented to Lafayette Renew over the course of up to two (2) meetings. Meeting agenda along with PDF figures detailing the alternatives to be delivered electronically five (5) days prior to the meeting with meeting notes distributed within five (5) days of the meeting.

The refined alternatives will be presented in a single meeting to Lafayette Renew, meeting agenda along with PDF figures detailing the alternatives to be delivered electronically five (5) days prior to the meeting and meeting notes distributed within five (5) days of the meeting.

The final deliverable under this task will be two printed and one electronic PDF that summarizes the selected alternative include recommended sizing, location, capital and O&M cost, construction footprint and schedule.

1.6 CSO LTCP Modifications. Coordinate and conduct the following meetings between IDEM and the City to address any and all changes to the original CSO LTCP:

- 1.6.1 Initial Guidance Meeting: In-person meeting at IDEM in January 2020 to seek guidance on current High Rate Treatment governing regulations.
- 1.6.2 Recalibration Progress Meeting: In-person or conference call at half-way point of model recalibration process to update IDEM on progress.
- 1.6.3 Revised Alternative Meeting: Greeley and Hansen to present the findings related to the recommended revised alternative based on completion of above tasks. Any questions or concerns put forth by IDEM shall be resolved prior to drafting a submittal requesting CSO LTCP Modification.

Deliverables include preparation and distribution of meeting agendas to be sent electronically five (5) days prior to the meeting and notes distributed within five (5) days of meeting. Other deliverables are incorporation of IDEM comments to Section 8 modifications and the documentation of final changes made to the original CSO LTCP.

EXHIBIT B

AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

between

CITY OF LAFAYETTE

and

GREELEY AND HANSEN LLC

Estimated Compensation

COMBINED SEWER OVERFLOW LONG TERM CONTROL PLAN PHASE II-C
PEARL RIVER CSO CONTROL FACILITY

	Hours	Hourly Rates	Cost
1. Greeley and Hansen Labor:			
a. Project Director	107	\$180	\$19,294
b. Project Manager	372	\$129	\$47,914
c. Engineer / Modeling Specialist	908	\$129	\$116,950
d. Designer / CAD Tech	52	\$119	\$6,195
e. Word Processor	16	\$74	\$1,185
Subtotal	1,455		\$191,538
2. Subconsultant Costs - None			
3. Other Direct Costs (Travel, Mail, etc.)			
a. Local Travel ⁽¹⁾	920 Miles @	\$0.580 / m	\$534
b. Site Visits ⁽²⁾	800 Miles @	\$0.580 / m	\$464
Subtotal			\$998
4. Total Compensation (Rounded)			\$192,500

⁽¹⁾ Based on 8 trips at 115 miles per trip.

⁽²⁾ Based on 2 trips at 400 miles per trip.

EXHIBIT B

AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

between

CITY OF LAFAYETTE

and

GREELEY AND HANSEN LLC

Estimated Level of Effort

COMBINED SEWER OVERFLOW LONG TERM CONTROL PLAN PHASE II-C

PEARL RIVER CSO CONTROL FACILITY

Task Description	Estimated Workhours						Estimated Compensation
	Project Director	Project Manager	Engineer / Modeling Specialist	Designer / CAD Tech	Word Processor	Total Hours	Totals
1.1 COLLECTION SYSTEM HYDRAULIC MODELING							
1.1.1 Flow Monitoring Scope Development	2	4	8	2	0	16	\$ 2,145
1.1.2 Request for Quotes / Evaluation	1	8	4	0	0	13	\$ 1,726
1.1.3 Flow Monitoring QA/QC	2	4	100	0	0	106	\$ 13,756
1.1.5 QA/QC Rainfall Summary	1	4	16	0	0	21	\$ 2,756
1.1.6 General Assistance	0	16	24	0	0	40	\$ 5,152
Subtotal	6	36	152	2	0	196	\$ 25,535
1.2 XPSWMM MODEL UPDATE							
Model conversion and update	4	20	100	0	0	124	\$ 16,177
Subtotal	4	20	100	0	0	124	\$ 16,177
1.3 XPSWMM MODEL RECALIBRATION / VERIFICATION							
1.3.1 Model Reconfiguration / Calibration	16	40	200	0	0	256	\$ 33,797
1.3.2 Run Typical Year Current Conditions Model	0	2	16	0	0	18	\$ 2,318
1.3.3 Draft and Final Calibration Report	8	24	40	4	8	84	\$ 10,755
1.3.4 Run Design Storm Current Conditions Model	0	2	16	0	0	18	\$ 2,318
1.3.5 Update CSO Matrix for DMR Reporting	1	4	24	0	0	29	\$ 3,787
Subtotal	25	72	296	4	8	405	\$ 52,975
1.4 HRT SAMPLING AND DATA COLLECTION							
Results Analysis and Assistance to Lab Staff	8	48	48	0	0	104	\$ 13,807
Subtotal	8	48	48	0	0	104	\$ 13,807
1.5 LTCP OPTIMIZATION							
1.5.1 Hydraulic Modeling Alternative Analysis	24	48	100	4	0	176	\$ 23,867
1.5.2 Cost Alternative Analysis	8	48	80	0	4	140	\$ 18,225
1.5.3 CSO Control Facility Footprint	8	40	60	24	0	132	\$ 17,182
1.5.4 Selected Alternative	12	40	60	16	4	132	\$ 17,246
Subtotal	52	176	300	44	8	580	\$ 76,520
1.6 CSO LTCP MODIFICATIONS							
1.6.1 Initial Guidance Meeting	4	8	2	0	0	14	\$ 2,009
1.6.2 Recalibration Progress Meeting	4	4	8	0	0	16	\$ 2,267
1.6.3 Revised Alternative Meeting	4	8	2	2	0	16	\$ 2,248
Subtotal	12	20	12	2	0	46	\$ 6,524
Total	107	372	908	52	16	1455	\$ 191,538

EXHIBIT C

Milestone Schedule

Combined Sewer Overflow Long Term Control Plan Phase II-C Pearl River CSO Control Facility

Milestone Description	Date
Meeting # 1 – Initial Guidance from IDEM to define HRT requirements	01/22/2020
Manufacturer and Tank Contractor Meetings to understand vision of site	2/10 – 3/27
Installation of Flow Meters	2/15/2020
Meeting # 2 – HRT Overview Discussion with Owner	04/2020
Site Visit # 1 – First HRT / Storage Site Location	04/2020
Meeting # 3 – HRT Compliance Discussion with IDEM	05/2020
Site Visit # 2 – Second HRT / Storage Site Location	05/2020
Site Visit # 3 and 4 – Third and fourth (if needed) HRT / Storage Site Location(s)	06/2020
Presentation of Selected Preliminary Conceptual Design Alternative to IDEM	08/01/2020
Formalize IDEM Approval of LTCP Modification	08/2020